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Research Interests	Predictability and prediction of climate and its impacts. Ocean/atmosphere dynamics and coupling. Impact of climate change and variability on extreme events.
Education	Ph.D. Physical Oceanography Apr., 2000 University of Washington Seattle, WA Thesis title: "Sub-seasonal wind variability and El Niño" M.S. Applied Mathematics Feb. 1999 University of Washington Seattle, WA M.S. Physical Oceanography Dec. 1996 University of Washington Seattle, WA B.A. Mathematics May 1994 Rutgers University New Brunswick, NJ
Professional Experience	Jun. 2006 – Present Research Oceanographer Princeton, NJ NOAA – Geophysical Fluid Dynamics Laboratory May. 2010 – Present Visiting Research Collaborator Princeton, NJ Princeton University, Program in Atmospheric and Oceanic Sciences Nov. 2003 – Jun. 2006 UCAR Visiting Scientist Princeton, NJ NOAA – Geophysical Fluid Dynamics Laboratory May 2001 – Nov. 2003 Research Scientist Seattle, WA University of Washington, Joint Institute for the Study of the Atmosphere and Oceans May 2000 – Apr. 2001 Postdoctoral Research Associate Seattle, WA University of Washington, Department of Atmospheric Sciences / JISAO Sep. 1994 – Apr. 2000 Research Assistant Seattle, WA University of Washington, School of Oceanography Oct. 1993 – Sep. 1994 Research Assistant New Brunswick, NJ Institute for Marine and Coastal Sciences, Rutgers University Jun. 1993- Aug. 1993 Summer Research Fellow New Brunswick, NJ Institute for Marine and Coastal Sciences, Rutgers University
Teaching Experience	Sep. 2010 – Jan. 2011 Lecturer Princeton, NJ Princeton University, Geosciences 425 – Intro. Physical Oceanography. Sep. 2004 – Jan. 2005 Lecturer New Brunswick, NJ Rutgers University, Environmental Sci. 323 – Atmospheric Thermodynamics. Sep. 1995 – Dec. 1995 Teaching Assistant Seattle, WA University of Washington. Applied. Math. 505 – Intro. to Fluid Dynamics

Awards Received	Presidential Early Career Award for Scientists and Engineers (PECASE), 2004-09 AGU Editor's Citation for Excellence in Refereeing for Geophys. Res. Lett., 2008 NOAA/OAR Outstanding Paper of the Year, 2007 AGU Editor's Citation for Excellence in Refereeing for Geophys. Res. Lett., 2004 NASA Space Grant Scholarship, 1994-1996 Cook College, Rutgers University Marine Sciences Student of the Year, 1994 New Jersey Department of Education Garden State Scholar Scholarship, 1990-1994
Academic Committees	Ian Lloyd, Princeton Univ., AOS Program, Ph.D. Thesis Advisor. Expected May 2011 Kityan Choi, Princeton Univ., AOS Program, Ph.D. Thesis Advisor. Expected 2014 Pedro DiNezio, Univ. of Miami, RSMAS, Ph.D. Committee Member. Expected Mar. 2011 Christine Standohar, Univ. of Miami, RSMAS, M.S. Committee Member. Expected 2011 Angela Colbert, Univ. of Miami, RSMAS, Ph.D. Committee Member. Expected 2013 Daiwei Wang, Columbia University, Ph.D. Defense Examining Committee. Sept. 2010
Community Service	Lead Author for Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report NOAA-OAR Climate Observing Systems Council (2009-present) U.S.-CLIVAR Working Group on Hurricanes and Climate (Co-Chair, 2010-2011) U.S.-CLIVAR Predictability, Prediction, and Applications Interface Panel (2009-present) CLIVAR Asian/Australian Monsoon Panel (2008-present) CLIVAR Indian Ocean Panel (2007-present) Associate Editor, Journal of the Atmospheric Sciences (2007-present) Associate Editor, Journal of Climate (2008-present) Book Review Editor, Int. J. of Climate Change Strategies and Management (2009) AGU/TOS/ASLO Ocean Sciences 2006 Meeting Scientific Organizing Committee Judge 2005 NAACP ACT-SO Academic Competition Speaker: Elementary through High School Article reviews for: J. Climate, Science, Nature, Proc. Nat. Acad. Sci., J. Physical Oceanography, Monthly Weather Review, J. of Geophys. Res., Geophys. Res. Lett., J. Atmospheric Sciences, J. Oceanic and Atmospheric Tech., Remote Sensing of the Environment, Tellus Proposal reviews for: NOAA, NSF, NASA, DOE Guest lectures at Princeton Univ., Rutgers Univ., Univ. of Pennsylvania, U.S. Naval Academy, Univ. of Miami
Professional Organizations	American Geophysical Union. American Meteorological Society. The Oceanography Society
Languages	Fluent in Spanish (lived in Venezuela from age 1 to 14) and Italian. Working knowledge of French. Learning Swedish.
Interests	Soccer, snowboarding, mountain biking, SCUBA, gardening

Publications

- Vecchi, G.A., M. Zhao, I.M. Held, S.-J. Lin, & I.D. Lloyd (2011): Impact of Sea Surface Temperature on Tropical Cyclones in a 100km Global Atmospheric General Circulation Model. *J. Climate (in preparation)*.
- Vecchi, G.A., M. Zhao, and I.M. Held (2011): Simulation of Tropical Cyclones Over the 1880-2007 Period Using a 100km Global Atmospheric General Circulation Model. *J. Climate (in preparation)*.
- Doi, T., and G.A. Vecchi (2011): CO₂-forced enhancement of the year-to-year variations of surface temperature in the Atlantic hurricane main development region. *J. Climate (in preparation)*.
- Doi, T., and G.A. Vecchi (2011): Biases in the simulation of the summer decay of interannual SST variations in the northern tropical Atlantic and its coupled link to the Guinea Dome. *J. Climate (in preparation)*.
- Lloyd, I.D., T. Marchok, and G.A. Vecchi (2011): Diagnostics for comparing operational hurricane forecasts to observations. *J. Atmos. Model. Earth Sys. (submitted)*.
- Villarini, G., and G.A. Vecchi (2011): Statistical Modeling of the Power Dissipation Index (PDI) and Accumulated Cyclone Energy (ACE). *J. Climate (submitted)*.
- Soden, B.J., and G.A. Vecchi (2011): The Vertical Distribution of Cloud Feedback in Coupled Ocean-Atmosphere Models. *Geophys. Res. Lett (submitted)*.
- Fang, Y., A. Fiore, L. Horowitz, A. Gnanadesikan, I.M. Held, G. Chen, G.A. Vecchi, H. Levy (2011): The impacts of changing transport and precipitation on pollutant distributions in a future climate. *J. Geophys. Res. (submitted)*.
- Villarini, G., G.A. Vecchi, and J.A. Smith (2011): U.S. Landfalling and North Atlantic Hurricanes: Statistical Modeling of Their Frequencies and Ratios. *Mon. Wea. Rev. (submitted)*.
- DiNezio, P.N., B.P. Kirtman, A.C. Clement, S.-K. Lee, G.A. Vecchi and A.T. Wittenberg (2011): ENSO Response to Global Warming: The Role of Background Ocean Changes. *J. Climate (submitted)*.
- Villarini, G., G.A. Vecchi, T.R. Knutson, M. Zhao and J.A. Smith (2011): Reconciling Differing Model Projections of Changes in the Frequency of Tropical Storms in the North Atlantic Basin in a Warmer Climate. *J. Climate (in press)*.
- Villarini, G., G.A. Vecchi, T.R. Knutson and J.A. Smith (2011): Is the Recorded Increase in Short Duration North Atlantic Tropical Storms Spurious? *J. Geophys. Res. (in press)*.
- DiNezio, P.N., A.C. Clement, G.A. Vecchi, B.J. Soden, A.J. Broccoli, B. Otto-Bliesner, P. Braconnot (2011): The Response of the Walker Circulation to LGM Forcing: Implications for Detection in Proxies. *Paleoceanography (in press)*.
- Vecchi, G.A., & T.R. Knutson (2010): Estimating annual numbers of Atlantic hurricanes missing from the HURDAT database (1878-1965) using ship track density. *J. Climate (in press)*.
- Vecchi, G.A., M. Zhao, H. Wang, G. Villarini, A. Rosati, A. Kumar, I.M. Held and R. Gudgel (2011): Hybrid Statistical-Dynamical Predictions of Seasonal North Atlantic Hurricane Activity *Mon. Wea. Rev.*, doi: 10.1175/2010MWR3499.1 (*in press*).
- Lloyd, I.D., & G.A. Vecchi (2011): Observational evidence for oceanic control on hurricane intensity. *J. Climate*, doi: 10.1175/2010JCLI3763.1.
- Stock, C., and co-authors (2010): On the use of IPCC-class models to assess the impact of climate on living marine resources. *Progress in Oceanography* doi: 10.1016/j.pocean.2010.09.001.
- Zhao, M., I.M. Held, and G.A. Vecchi (2010): Seasonal predictability of northern hemisphere hurricanes in an SST-forced AGCM. *Mon. Wea. Rev.*, doi: 10.1175/2010MWR3366.1.
- Seager, R. and G.A. Vecchi (2010): Greenhouse warming and the 21st Century hydroclimate of southwestern North America. *Proc. Nat. Acad. Sciences*, doi: 10.1073/pnas.0910856107.

- Seager, R., N. Naik, and G.A. Vecchi (2010): Thermodynamic and dynamic mechanisms for large-scale changes in the hydrological cycle in response to global warming. *J. Climate* **23**, 4651-4668. doi: 10.1175/2010JCLI3655.1.
- Collins, M., S-I An, W. Cai, A. Ganachaud, E. Guilyardi, F-F Jin, M. Jochum, M. Lengaigne, S. Power, A. Timmermann, G. Vecchi and A. Wittenberg (2010): The impact of global warming on the tropical Pacific and El Niño. *Nature Geosci.* doi:10.1038/ngeo868.
- Villarini, G., G.A. Vecchi and J.A. Smith (2010): Modeling of the Dependence of Tropical Storm Counts in the North Atlantic Basin on Climate Indices. *Mon. Wea. Rev.* **138**(7), 2681-2705, doi: 10.1175/2010MWR3315.1
- Gnanadesikan, A., K. Emanuel, G.A. Vecchi, W.G. Anderson, R. Hallberg (2010): How ocean color can steer Pacific tropical cyclones. *Geophys. Res. Lett.*, **37**, L18802, doi:10.1029/2010GL044514
- DiNezio, P., A. Clement, and G.A. Vecchi (2010): Reconciling Differing Views of Tropical Pacific Climate Change *EOS, Trans. Amer. Geophys. Union*, **91**(16), 141-152.
- Vecchi, G.A. and A.T. Wittenberg (2010): El Niño and our future climate: where do we stand? *Wiley Interdisciplinary Reviews: Climate Change*, doi: 10.1002/wcc.33.
- Bender, M.A., T.R. Knutson, R.E. Tuleya, J.J. Sirutis, G.A. Vecchi, S.T. Garner, and I.M. Held (2010): Model-Projected Impact of Anthropogenic Warming on Late 21st Century Intense Atlantic Hurricane Activity. *Science*. doi: 10.1126/science.1180568.
- Lloyd, I.D., & G.A. Vecchi (2010): Submonthly Indian Ocean cooling events and their relation to large-scale conditions. *J. Climate*, doi: 10.1175/2009JCLI3067.1.
- Landsea, C.W., G.A. Vecchi, L. Bengtsson & T.R. Knutson (2010): Impact of Duration Thresholds on Atlantic Tropical Cyclone Counts. *J. Climate*, doi: 10.1175/2009JCLI3034.1.
- Kirtman, B. and G.A. Vecchi (2010): Why Climate Modelers Should Worry About Atmospheric and Oceanic Weather. WMO Monograph: "The Global Monsoon System: Research and Forecast 2nd Edition"
- Xie, S.P., C. Deser, G.A. Vecchi, J. Ma, H. Teng and A.T. Wittenberg (2010). Global Warming Pattern Formation: Sea Surface Temperature and Rainfall. *J. Climate*, doi: 10.1175/2009JCLI3329.1.
- Zheng, X-T, S-P Xie, G.A. Vecchi, Q. Liu, and J. Hafner (2010). Indian Ocean dipole response to global warming: Analysis of ocean-atmospheric feedbacks in a coupled model. *J. Climate*, doi: 10.1175/2009JCLI3326.1.
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- Zhao, M., I.M. Held, S.-J. Lin & G.A. Vecchi (2009): Simulations of global hurricane climatology, interannual variability, and response to global warming using a 50km resolution GCM. *J. Climate*, doi: 10.1175/2009JCLI3049.1.
- Harrison, D.E., A.M. Chiodi, and G.A. Vecchi (2009): Effects of surface forcing on the seasonal cycle of the eastern equatorial Pacific. *J. Marine Res.*, **67**(6), 701-729.
- DiNezio, P.N., A.C. Clement, G.A. Vecchi, B.J. Soden, B.P. Kirtman & S.-K. Lee (2009): Climate Response of the Equatorial Pacific to Global Warming. *J. Climate*, **22**(18), 4873-4892.
- Lengaigne, M., & G.A. Vecchi (2009): Contrasting the termination of moderate and extreme El Niño events in Coupled General Circulation Models. *Clim. Dyn.* DOI:10.1007/s00382-009-0562-3.
- McPhaden, M.J., et al. (2009): Ocean-Atmosphere Interactions During Cyclone Nargis. *EOS Trans. Amer. Geophys. Union*, **90**(7), 53-60.
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- Vecchi, G.A., & B.J. Soden (2007). Global Warming and the Weakening of the Tropical Circulation. *J. Climate*, **20**(17) 4316-4340.
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- Seager, R., et al (2007). Model projections of an imminent transition to a more arid climate in southwestern North America. *Science* **316**, 1181-1184.
- Lu, J., G.A. Vecchi & T.J. Reichler (2007). Expansion of the Hadley cell under global warming. *Geophys. Res. Lett.* doi:10.1029/2006GL028443.
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- Vecchi, G.A. (2006). The termination of the 1997-98 El Niño. Part II: Mechanisms of Atmospheric Change. *J. Climate*, **19**(12), 2647-2664.
- Vecchi, G.A., & D.E. Harrison (2006). The termination of the 1997-98 El Niño. Part I: Mechanisms of Oceanic Change. *J. Climate*, **19**(12), 2633-2646.
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- Harrison, D.E. & G.A. Vecchi (1999). On the termination of El Niño. *Geophys. Res. Lett.* **26**(11).
- Vecchi, G.A. & D.E. Harrison (1997). Westerly wind events in the tropical Pacific, 1986-1995: An atlas from the ECMWF operational surface wind fields. NOAA Technical Memorandum ERL PMEL-109 (NTIS PB97-188213).
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